

REMARKS

Claims 1-9 remain in this application, of which Claims 1, 5, and 9 are independent. Claim 10 has been canceled without prejudice or disclaimer of subject matter, and will not be discussed further.

Claims 1-9 have been rejected under 35 U.S.C. § 103(a) as being obvious from U.S. Patent 5,621,542 (Ohta et al.) in view of JP 40819036 A (Onodera).

Claim 1 is directed to an image processing apparatus including input means, processing means, and allocation means. The input means inputs image data, and the processing means quantizes error-correction data obtained by adding error data to the image data input by the input means so that data having at least two levels are generated. The allocation means allocates the error data generated when the quantization is performed to image data which are not quantized. In response to a predetermined level of the error-correction data, the processing means uses a different processing from fundamental processing, and outputs, as a result of quantization, a different level from a level resulting from fundamental processing for the predetermined level so as to prevent a pseudocontour from being generated. The different processing includes adding noise components to output data to achieve the different level.

Ohta et al. relates to image processing with weighting of error data generated in quantization. The Office Action concedes that “Ohta does not teach of using a different processing from fundamental processing for adding noise components to output data to achieve the different level” (see page 3 of the Office Action). The Office Action cites JP 40819036 A (*Onodera*) as teaching this feature.

As an initial matter, Applicant notes that U.S. Patent 5,790,095 to *Onodera et al.* (hereinafter referred to as "*Onodera '095*") is a counterpart to JP 40819036 A, and therefore Applicant will refer to *Onodera '095*. Applicant notes that the subject matter of *Onodera '095* referred to herein is also disclosed in JP 40819036 A.

Onodera '095, as understood by Applicant, relates to error variance processing equipment for display devices. *Onodera '095* does not teach using a different processing from fundamental processing for adding noise components to output data to achieve the different level. Apparently, the purpose of *Onodera '095* is to make an emission luminance characteristic of a display device such as a Plasma Display Panel (PDP) reflect in pseudo-half-tone processing, and to obtain a desirable output image. Therefore, *Onodera '095* calculates the luminance deviation characteristic of a display device for every single frame or plural frames, and renews the gradation characteristic for every single frame or plural frames instead of the conventional emission luminance characteristic that was given from the ROM (see column 2, lines 30-47, and the section headed "First Embodiment" beginning at column 4, line 5). Additionally, *Onodera '095* discusses that in order to prevent the switching noise at a low level of image generated by renewing the emission luminance characteristic to every single frame or plural frames, a fixed constant is used at the low level (see the section headed "Third Embodiment," beginning at column 6, line 27).

As is clear from *Onodera '095*, the above construction is for the purpose of maintaining the tonal linearity, i.e., maintaining the emission luminance level of the inputted image signal and the drive signal as the outputted image signal, as linear (see column 2, lines 48-50). This is because *Onodera '095* aims to prevent a pseudocontour

from being generated without the ability to be adapted for the gradation characteristic, when the emission luminance characteristic of the display device changes. In order to accomplish this, *Onodera '095* obtains the luminance deviation of the display device, and renewing the gradation characteristic so that the emission luminance level and the drive signal level may become linear. Such renewing of the gradation characteristic is similar to gamma correction in electrophotography printing technology or ink jet printing technology.

Moreover, referring to Fig. 5 of *Onodera '095* (which is the same as Fig. 7 of JP 40819036 A), *Onodera '095* calculates an amount of error from the luminance deviation value and output image data, at error operation part 12, and apparently performs an error diffusion process using the amount of error at the processing circuit 13. This is shown by Fig. 5. However, there is no concrete disclosure in *Onodera '095* regarding the calculation of the amount of error and the error diffusion processing using it.

Applicants have found nothing in *Ohta et al.*, *Onodera '095*, or JP 40819036 A, either separately or in combination, that would teach or suggest that, in response to a predetermined level of error-correction data, a processing means uses a different processing from fundamental processing, and outputs, as a result of quantization, a different level from a level resulting from fundamental processing for the predetermined level so as to prevent a pseudocontour from being generated, the different processing including adding noise components to output data to achieve the different level, as recited in Claim 1.

Accordingly, Claim 1 is seen to be clearly allowable over *Ohta et al.* and *Onodera '095* or JP 40819036 A.

Independent Claim 5 is a method claim corresponding to apparatus Claim 1, and is believed to be patentable for at least the same reasons as discussed above in connection with Claim 1. Independent Claim 9 is similar to Claim 1 in respect of the features discussed above that distinguish Claim 1 over the prior art, and Claim 9 is also believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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